

Study Guide

Squares and Rhombi

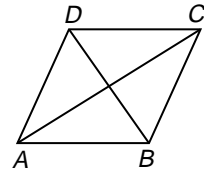
A **rhombus** is a quadrilateral with four congruent sides. A **square** is a quadrilateral with four right angles and four congruent sides.

The diagonals of a rhombus have two special relationships.

- The diagonals of a rhombus are perpendicular.
- Each diagonal of a rhombus bisects a pair of opposite angles.

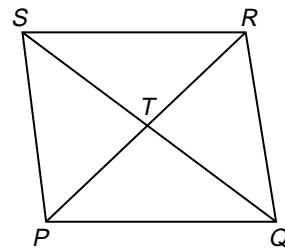
Example: $ABCD$ is a rhombus. If $m\angle ADB = 27$, find $m\angle ADC$.

Since each diagonal of a rhombus bisects a pair of opposite angles, $m\angle ADC = 2(m\angle ADB)$.
So $m\angle ADC = 2(27)$ or 54 .



Use rhombus PQRS and the given information to find each value.

1. If $ST = 13$, find SQ .
2. If $m\angle PRS = 17$, find $m\angle QRS$.
3. Find $m\angle STR$.
4. If $SP = 4x - 3$ and $PQ = 18 + x$, find the value of x .



Determine whether each quadrilateral with the given vertices is a parallelogram, a rectangle, a rhombus, or a square. List all that apply.

5. $M(1, 5)$, $N(6, 5)$,
 $O(6, 10)$, $P(1, 10)$

6. $W(-4, -2)$, $X(5, -2)$,
 $Y(8, 4)$, $Z(-1, 4)$

7. $D(-7, 3)$, $E(-2, 3)$,
 $F(1, 7)$, $G(-4, 7)$

8. $R(0, 0)$, $E(10, 0)$,
 $S(10, 5)$, $T(0, 5)$